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A nasopharyngeal catheter provides direct pharyngeal delivery of high flows of humidified air, oxygen, helium, or other gases to supplement ventilation of a spontaneously breathing patient. For example, flow rates in the range of approximately 4 to 40 liters per minute can be employed. The flow passes through a heater that maintains a desired temperature, and a humidifier that maintains a desired relative humidity. The present invention includes a nasal catheter that can be cut to a desired length and removably attached to a horizontal delivery tube. Gas can be supplied through oxygen connections at either end of the horizontal delivery tube.